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Using Grey Model to Predict Lithium-ion Battery Discharge Behavior

Liu, Chuan-Sheng; Chen, Liang-Rui

Abstract

In this paper, the study of Li-ion battery discharge voltage predicting using Grey model is presented. A test-bed for the battery discharge predicting is designed and devised. By utilizing this test-bed, the discharge condition for discharging Li-ion battery can be easily set and the data of the discharged Li-ion battery can be simultaneously obtained. Experimental results show that the GM(1,1) Grey model can precisely predict the Li-ion battery voltage curve as theory predicts. The result is greatly helpful for engineers to design a Grey-Predicted Battery Monitoring System (GP-BMS).

Key words : Lithium-ion Battery;Discharge